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the latter relation by acceleration or retardation is the same as that of the latter essay. The importance which he attaches to the subject was a source of gratification to the speaker, as it was a similar impression that led to the publication of "The Origin of Genera" in 1869.

It remains to observe that the phenomena of exact parallelism or palingenesis, are quite as necessarily accounted for on the principle of acceleration or retardation, as are those of inexact parallelism or cœnogenesis. Were all parts of the organism accelerated or retarded at a like rate, the relation of exact parallelism would never be disturbed; while the inexactitude of the parallelism will depend on the number of variations in the rate of growth of different organs of the individual, with additions introduced from time to time. Hence it may be laid down, that *synchronous acceleration or retardation* produces exact parallelism, and *heterochronous acceleration or retardation*, produces inexact parallelism.

In conclusion, it may be added that acceleration of the segmentation, the protoplasma or animal portion of the primordial egg, or retardation of segmentation of the deutoplasma or vegetative half of the egg, or both, or the same relation between the growth of the circumference and centre of the egg, has given rise to the four types which the segmentation now presents.

An analysis of the laws of evolution may be tabulated as follows:—

		<i>Exact parallelism, the product of Palingenesis, which is synchronous....</i>	<i>Inexact parallelism, the product of Cœnogenesis, which is heterochronous....</i>
<i>acceleration,</i>	{	Exact repetition..... *	*
which proceeds by	{	Modified repetition..... *	*
	{	Heterotopy..... *	*
<i>retardation,</i>	{	Exact atrophy..... *	*
which proceeds by	{	Inexact atrophy (or senility)!. *	*

A Human Skull exhibiting unusual Features.—Dr. ALLEN exhibited a human skull showing a number of peculiarities. The most conspicuous of these was a large bridge-like process of bone extending backward from the base of the pterygoid process and adjoining the under surface of the sphenoid bone in front of the foramen spinosum. It was symmetrical, and visible through the foramen ovale, from within the brain-case.

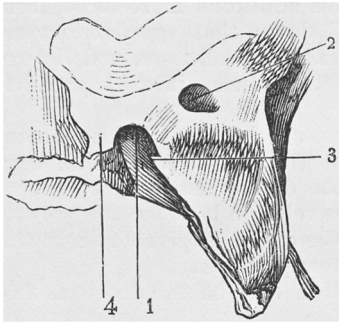
Variations in this portion of the skull are frequent.

¹ So called by Professor Hyatt.

The posterior edge of the outer pterygoid plate is exceedingly variable. A small process (3) is often seen jutting backward from the border of the outer plate on a level with the end of the spinous process. Several specimens in the collection exhibit a bridge formed by this process uniting with the spinous process.

That the variation in the skull under consideration is not of this kind is proved by the specimen exhibiting this process, which for the need of distinguishing it from the other may be called the *accessory process*.

The foramen (2) caused by the bridge-like process opens without in the zygomatic fossa, and within at the anterior border of the foramen ovale. It probably carried a large branch—the motor trunk—of the inferior maxillary division of the fifth cranial nerve.



1. Oval foramen. 2. Abnormal foramen.
3. Accessory process. 4. Spinous process.

Among other peculiarities of the same specimen may be mentioned a duplication of the foramen spinosum of the right side; the almost oval shape of the sphenoidal fissure; the presence of several island-like patches of the upper surface of the greater wing of the sphenoid bone through openings in the orbital plates of the frontal bone; the exceedingly bold sculpturing of the inner layer of the brain case; the great thinning of

the wall at the temporal fossæ; pronounced depression for the cartilaginous portion of the Eustachian tube, and two slit-like infra-orbital foramina. The latter are situated five lines below the orbit, and associated with a canal extending outward and backward. The infra-orbital canal is eight lines long.

With all these peculiarities the muscular impressions are weak; the mastoid processes of ordinary proportions, and the styloid processes very small.

Dr. Allen concluded that the inner or *true* cranial plate had been *over-developed*. The outer plate remained nearly the same, excepting at the base of the pterygoid process.

Variations in the skull can be arranged in three groups. (1) Those peculiar to modification in the form of the entire skull, due to arrests or excesses in development. (2) Those due to plus development of the inner or true plate. (3) Those due to traction of muscles. This latter causes no change on the inner plate, unless the error occurs at an early age. Ordinarily, muscular action affects the *outer* plate of the skull only.